

TECHNICAL REVIEW DOCUMENT
For
MODIFICATION TO OPERATING PERMIT 95OPMR081

Public Service Company – Roundup Compressor Station
Morgan County
Source ID 0870030

Prepared by Jacqueline Joyce
March 3 & 4, 2005

I. Purpose:

This document establishes the decisions made regarding the requested modifications to the Operating Permit for the Roundup Compressor Station. This document provides information describing the type of modification and the changes made to the permit as requested by the source and the changes made due to the Division's analysis. This document is designed for reference during review of the proposed permit by EPA and for future reference by the Division to aid in any additional permit modifications at this facility. The conclusions made in this report are based on the information provided in the original request for modification submitted to the Division on February 22, 2005 and various e-mail correspondence and telephone conversations with the source. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Permit Modification Request/Modification Type

The renewal operating permit for the Roundup Compressor Station was issued on November 1, 2003. The source submitted a request on February 22, 2005 to modify the operating permit to specify that the extended gas analysis be based on a field gas sample versus a sample prior to each piece of equipment and that only two samples shall be taken per year. The source requested that the modification be processed as a minor modification as provided for in Colorado Regulation No. 3, Part C, Section X. Colorado Regulation No. 3, Part C, Section X.A identifies those modifications that can be processed under the minor permit modification procedures. Specifically, minor permit modifications are modifications that "do not involve significant changes to

existing monitoring, reporting, or record keeping requirements" (Colorado Regulation No. 3, Part C, Section X.A.2).

There are three dehydrators at the facility, two (2) triethylene glycol (TEG) dehydrators and one (1) ethylene glycol (EG) dehydrator. The dehydrators do not operate for the entire year but only operate during the withdrawal cycle, which may last for about 6 months. As gas is initially withdrawn, only the TEG units are utilized. As the withdrawal process continues, the level of heavy hydrocarbons in the gas increases and the EG unit is brought on line. When the EG unit is brought on line, gas passes through the EG unit first and then through the TEG units. When the original operating permit was revised (February 8, 2000), the Division intended to clarify the gas sampling requirements to reflect the operation of the facility. Since the level of heavy hydrocarbons in the inlet gas changes as the withdrawal proceeds, samples were required twice during the withdrawal period, once following initial withdrawal and the second time after the gas plant (EG unit) comes on line. The language in the permit does not necessarily reflect what the Division had intended and the source had requested. A review of the original request to revise the language (October 6, 1999 comments on revised permit), indicate that the intent was to require that gas be sampled at the TEG inlet following initial withdrawal and when the EG unit comes on line, a sample would be taken at the EG inlet and the TEG inlet, so three samples would be required. Based on the language in the permit, it appears that four samples are required, two samples for the TEG units and two for the EG unit.

The source is requesting that two samples be required, one taken at the TEG inlet following the beginning of the withdrawal period and another taken at the EG inlet following the startup of that unit. The requested modification actually results in one fewer sample, however, using a gas sample taken at the inlet of the EG unit and using that sample for the TEG units would result in more conservative emissions for the TEG units. Therefore, although the requested modification results in one fewer sample being taken than was originally intended, the Division considers that the requested modification is not a significant change in existing monitoring and can be processed as a minor modification.

In addition to the requested modification, the source submitted data indicating that emissions from the condensate tank and condensate loading equipment both have emissions below the APEN de minimis level. Therefore, the condensate tank and loading equipment may still be considered insignificant activities.

III. Modeling

The requested modification addresses changes to the monitoring language. Therefore, since there is no increase in emissions associated with this modification, modeling is not required.

IV. Discussion of Modifications Made

Source Requested Modifications

The Division addressed the source's requested modifications as follows:

Section II.3 & 4

Conditions 3.2 and 4.2 were revised to require an annual extended gas analysis as requested by the source.

Other Modifications

In addition to the requested modifications made by the source, the Division used this opportunity to include changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this modification.

The Division has made the following revisions, based on recent internal permit processing decisions and EPA comments on other permits, to the Roundup Operating Permit with the source's requested modifications.

Page following cover page

- Changed the Responsible Official and the Responsible Official's Duly Authorized Representative.

General

- The Reg 3 citations were revised throughout the permit, as necessary, based on the recent revisions made to Reg 3.

Section I – General Activities and Summary

- In Condition 1.4, General Condition 3.g (Common Provisions, Affirmative Defense) was added as a State-only requirement.
- Removed the 112(j) case-by-case MACT provisions in Condition 6. The source is not a major source of HAPS. A summary of HAP emissions from the facility is provided on page 5.

Section V – General Conditions

- General Condition No. 3 was revised to reflect that 3.g (affirmative defense) is state-only until approved by EPA.

Appendices

- Removed facility contact information from Appendix A.
- Replaced Appendices B and C with revised Appendices.

HAPS per Division Analysis

Unit	HAP Emissions (tons/yr)									total
	acetaldehyde	acrolein	benezene	toluene	ethyl benzene	xylene	formaldehyde	n-hexane	methanol	
E001	0.06	0.06	0.10	0.03		0.01	0.53	3.70E-03	0.02	0.81
E002 - E004 (hours limited to 16,000 hrs/yr)	0.17	0.16	0.38	0.12		0.03	1.71		0.19	2.76
D001 (TEG1)			0.23	0.44	0.15	1.35		0.09		2.26
D002 (TEG2)			0.23	0.44	0.15	1.35		0.09		2.26
D003 (EG1)			0.33	0.65	0.15	1.71		0.02		2.86
Fugitive VOCs			8.48E-05	1.00E-04	2.30E-05	1.50E-04		1.06E-03		1.42E-03
Condensate tank and loading equipment			1.16E-03	6.64E-03	3.30E-03	2.26E-02		1.26E-02		4.63E-02
Total	0.23	0.22	1.27	1.69	0.45	4.47	2.24	0.22	0.21	11.00

Engine emissions are based on most conservative emission factor (from AP-42 and HAPCalc 2.0, for 4-cycle rich burn engines and/or 2-cycle lean burn) for each pollutant. Note emissions for E002 - E004 are based on 16,000 hrs/yr. Based on requested fuel and a heat value of 960 Btu/scf, actual hours of operation are limited to 15,697 hrs/yr. Dehy emissions are based on 5/23/03 letter and 6/11/03 e-mail received for renewal permit. Emissions are not based on design rate, but use the provisions in HHH for dehy's. Fugitive VOC emissions are less than 2 tons/yr, HAPs are based on worst case extended gas analysis and 2 tpy, this is conservative. Emissions from the condensate tank & condensate loading equipment are less than 2 tpy, HAPS are based on 2 tpy & sample for pre-flash condensate in 2/22/05 mod request. Permitted VOC emissions from the smart ash incinerator are 0.08 tons/yr, HAPs will be insignificant, so not included here.